Summary of CSLS Long-Term Fiscal & Economic Projections

2014 to 2038

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January 18, 2016

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In July, the Centre for the Study of Living Standards (CSLS) released their report "Long-term Fiscal and Economic Projections for Canada and the Provinces and Territories, 2014-2038" (CSLS Research Report 2015-08; Authors - Don Drummond and Evan Capeluck).

In their own words, *"we present a series of alternative scenarios for long-term economic growth in Canada and the provinces and territories. The report also looks at whether provincial/ territorial governments will be able to finance public spending under these alternative fiscal and economic scenarios."*

Under the assumptions employed in this analysis, and like a number of other projections released lately, Manitoba appears to fair better than the rest of the country in general. In the CSLS analysis, projections are based on assumptions on the movement of several variables as follows:

a) population growth, specifically working age population as provided by Statistics Canada's official population projections;
b) participation rates by age group;
c) average hours worked by age group (these first three variables are used to estimate labour input);
d) labour productivity (defined as real GDP per hours worked) ;
e) GDP deflation (or general price inflation);
f) level of public spending, which is both an input to the projections as well as a target for evaluating if assumed public spending requirements can be met by the various provincial/territorial economies (without increased debt or taxation).

Due to the uncertainty that would exist in any long-term projections of this sort, the authors do not just come up with one set of assumptions, but rather put forward an expanding array of assumptions for each province/territory; a Base Case, two Alternative Scenarios which tweak public expenditure growth, and six Alternate Sensitivity Analysis Assumptions.

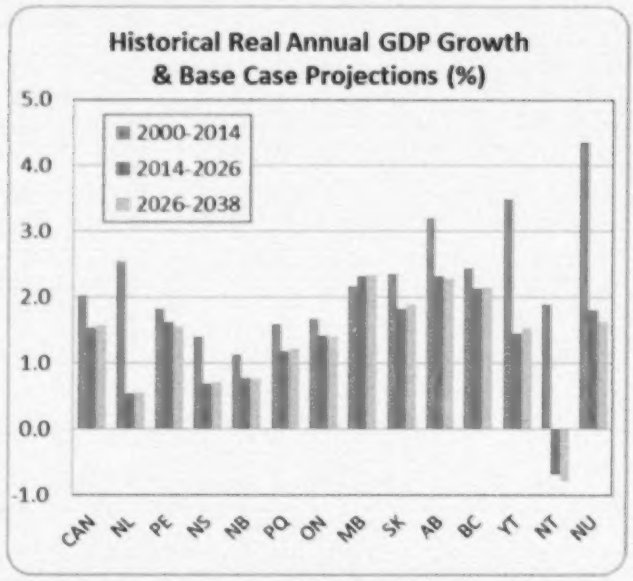
This ambitious undertaking of 21 unique scenarios produces real and nominal GDP projections for Canada as a whole and its ten provinces and three territories over two time periods; 2014-2026 and 2026-2038. The authors had split the projection period in half in recognition that growth of the working age population was projected to slow considerably over time with the aging of the population.

This also gave them the ability to use slightly different assumptions for the two time periods; however this is only done for the growth in participation rates, and only for the 55+ age group.

BASE CASE ASSUMPTIONS	
Labour Productivity	Labour Productivity growth over projection period is equal to each province's annual labour productivity growth over 2000-2014.
GDP deflator (inflation)	All provinces assumed to experience annual GDP deflation of 2.0%
Working Age Population	Working Age Population for each province provided by Statistics Canada's official population projections (M1 Scenario), based on demographic trends observed over 1991-2011. At the national level this scenario projects annual working age population growth of 0.9% for 2014-2038.
Average Hours Worked	Split into three age groups, average hours worked in every province is assumed to decline at the national rate observed over 1976-2014: -0.56% per year for ages 15-24, -0.14% for ages 25-54, and -0.25% for the 55+ age group.
Participation Rates	Participation rate for ages 15-24 is assumed to decline at the national rate for 2000-2014 (-0.02%/year); the 25-54 age group is assumed to remain stable at the 2014 level for each province; for the 55+ age group participation rates increase 0.63%/year initially (2014-2026) then level to 0.37% annual growth for the second half of the projection period (2026-2038).
Public Spending	Public spending is assumed to be constant in real per capita terms, and nominally assumed to keep pace with population growth and a constant inflation rate of 2%

This first chart showing average real GDP growth for the historic period (2000-2014), and the projection period (split in half; 2014-2026 & 2026-2038), tells a couple of important stories:

1) Real economic growth for Canada and all provinces and territories, except the Northwest Territories, is shown to be positive under the Base Case Assumptions.
2) Economic growth for both halves of the projection period is slower than over the historical period for Canada and all provinces/territories except Manitoba.



One point the authors make in explaining Manitoba's relative strength going forward, has to do with growth in total hours worked.

"Between 2000-2014 and 2014-2026 ... Manitoba is the only province with an increase in the rate of change in total hours worked... [T]he slight increase in annual total hours worked growth from 0.6 per cent per year to 0.8 per cent per year (0.1 percentage point) was due to: a 0.1 percentage-point rise in annual working age population growth... and a 0.1 percentage-point

increase in annual growth in the aggregate average hours worked. The improvement in working age population growth is linked to a 0.4 percentage-point increase in the growth rate for the prime-age population (25-54)... (which has a relatively high participation rate)..."

In other words, Manitoba's economic future is projected to benefit from Manitoba's embrace of international immigration, which has lowered the median age of Manitoba and slowed the aging of the population relative to the rest of the country.

The other factor enabling Manitoba to be a growth leader is its relatively strong labour productivity growth (1.45% per year) as projected from the 2000-2014 period. Poor labour productivity growth (-0.5%) also explains Northwest Territories' failure to produce any real positive growth through the projection period. Although the authors do note: *"The projections for smaller and less diversified jurisdictions are much more uncertain than those for larger and more diversified jurisdictions."*

It is also quite uncertain however to assume the labour productivity growth realized over 2000-2014 will necessarily continue through the next 24 years for any of these jurisdictions. Twenty-four years is a long time, plus there are a number of other assumptions working behind the scenes, such as assuming that employment growth will keep pace with labour force growth over the projection period for all jurisdictions, meaning provincial unemployment rates will stay at current levels.

The report acknowledges that there is not benefit in dwelling on the Base Case Projections, as the public spending assumption is deemed quite unrealistic. For two alternative scenarios, public spending is split into health, and non-health expenditures, with different growth assumptions.

ALTERNATE SCENARIO ASSUMPTIONS	
Alternate Scenario A	Total public spending will be constant in real per capita terms, however it is assumed the deflator for health spending will grow at the same pace as in 2000-2014 for each province (which ranges from 2.2-3.6% per year), while growth in the deflator for non-health spending remains at 2.0%.
Alternate Scenario B	More realistically, this scenario acknowledges there will be additional cost pressure on health care spending. The ageing of the population alone is expected to add 0.9% to annual health care costs over the projection period (CIHI 2014). Therefore, it is assumed health spending growth will be positive in real per capita terms, with growth in nominal per capita health spending determined by the historical growth rates for each province/territory for 2000-2014 (which ranges from 3.6%-6.1% per year).

In both cases, non-health spending is treated as for the base case above (i.e., 2% nominal per capita growth). However, it is difficult to assume that health spending will grow merely with general inflation. At the national level health care spending has exhibited annual growth of 2.8% over 2000-2014.

National and provincial/territorial results are charted on the following page. One chart for each half of the projection period, and both charts showing the difference (in percentage points) between projected nominal GDP growth, and the level of GDP growth needed to meet the public expenditure assumption put forward for the Base Case, and Alternate Scenarios A and B.

Again, while the base case (blue) is likely quite unrealistic in terms of public spending growth, the charts show that 13 of the 14 political jurisdictions would likely produce economic growth in excess of that required to keep public expenditures constant on a real per capita basis, without additional debt or taxation. The only economy projected to fail in this regard is the Northwest Territories, due largely to its negative historical (and projected) productivity growth.

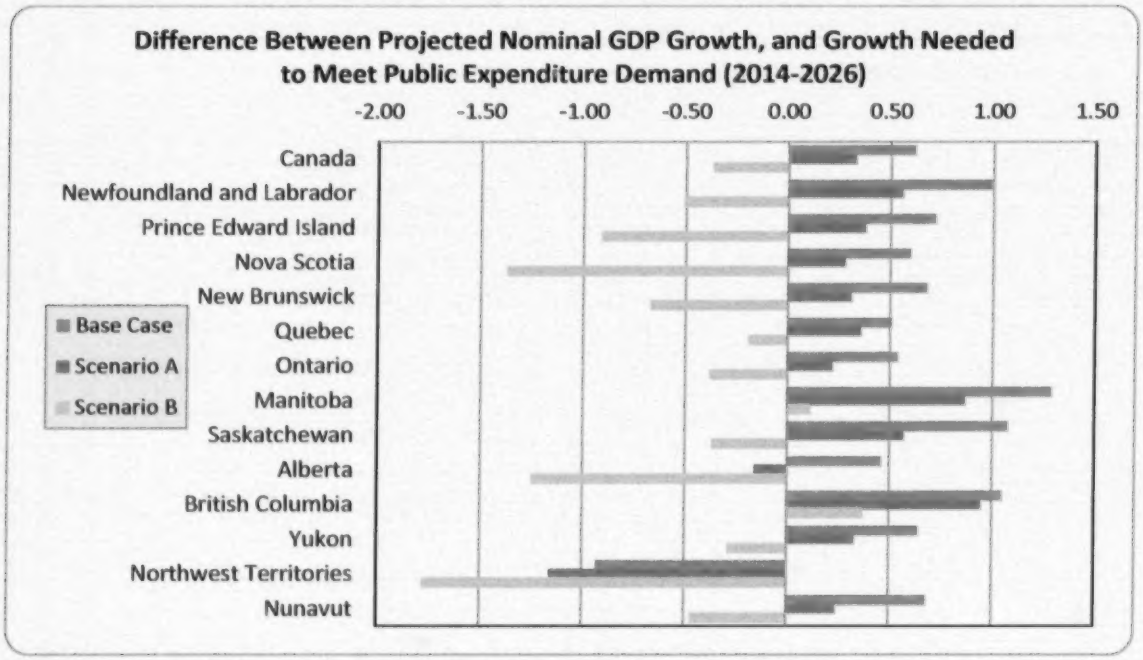
However, allowing half of government spending to grow more quickly than 2.0% results in significantly higher required growth rates for nominal GDP. In Scenario A, Alberta, as well as the Northwest Territories comes up short over both halves of the projection period.

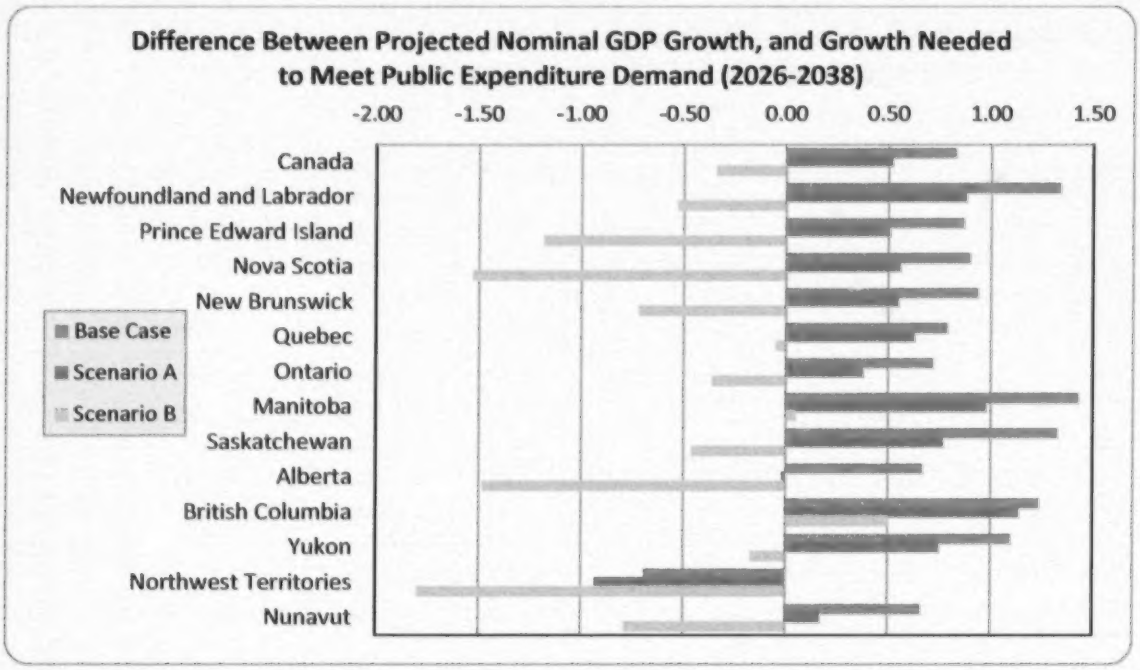
Things may not be so simple. In the case of Alberta, above-average growth in the health spending deflator (3.5%), and weak labour productivity growth (0.8%) limit growth in economic output going forward. *"However, these factors were related (either directly or indirectly) to the oil boom that took place in Alberta the 2000s... it is unlikely that these trends will be exhibited over much of the 2014-2038 period."*

"Under alternative scenario B, where health spending is allowed to grow at its average pace from the past 15 years (in nominal per capita terms), it is clear that, by and large, provincial/territorial governments will not be able to meet the test of balancing revenue growth with growth in public spending over the 2014-2038 period. In fact, under some [alternate assumption] economic scenarios, all provinces and territories will face revenue shortfalls. Only British Columbia and Manitoba have sufficient revenue growth under some of the economic scenarios."

"The relatively rosy outlooks for British Columbia and Manitoba are related to above-average labour productivity growth (1.4 and 1.5 per cent, respectively) and below-average slowdowns in labour input growth. In addition, projected growth in nominal per capita health spending for British Columbia is well below average (3.6 per cent)."

Beyond these three baseline projection scenarios, the authors explored the implications of altering some of the base assumptions, expressed here as Alternate Assumptions 1-6.


Difference Between Projected Nominal GDP Growth, and Growth Needed to Meet Public Expenditure Demand (2014-2026)
-2.00
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
Canada
Newfoundland and Labrador
Prince Edward Island
Nova Scotia
New Brunswick
Quebec
Ontario
Manitoba
Saskatchewan
Alberta
British Columbia
Yukon
Northwest Territories
Nunavut
Base Case
Scenario A
Scenario B


Difference Between Projected Nominal GDP Growth, and Growth Needed to Meet Public Expenditure Demand (2026-2038)
-2.00
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
Canada
Newfoundland and Labrador
Prince Edward Island
Nova Scotia
New Brunswick
Quebec
Ontario
Manitoba
Saskatchewan
Alberta
British Columbia
Yukon
Northwest Territories
Nunavut
Base Case
Scenario A
Scenario B

SENSITIVITY ANALYSIS - ALTERNATIVE ECONOMIC ASSUMPTIONS	
Alt. Assumption 1: GDP Deflator	The historical (2000-2014) GDP deflator specific to each province is used, rather than constant 2.0% annual inflation for every province.
Alt. Assumption 2: Average Hours Worked	For growth in average hours worked, a different time period is used; 2000-2014 national, instead of 1976-2014.
Alt. Assumption 3: Labour Productivity	The national labour productivity growth rate from 2000-2014 (0.99%) is used, rather than province specific rates.
Alt. Assumption 4: Working Age Population	The high-growth scenario from Statistics Canada's official population projections is used, replacing the M1 (medium) scenario.
Alt. Assumption 5: Working Age Population	The low-growth scenario from Statistics Canada's official population projections is used, replacing the M1 (medium) scenario.
Alt. Assumption 6: Average Hours Worked	Growth in average hours worked by age-group is determined by provincial history (1976-2014), rather than all provinces using the national rates for this time period.

Jurisdictions where Projected Revenue Growth is Expected to Fall Short of the Public Spending Assumption Utilized -- Results for Two Projection Periods (2014-2026 & 2026-2038), for All Projection Scenarios --

	2014-2026			2026-2038		
	Base Case	Scenario A	Scenario B	Base Case	Scenario A	Scenario B
Baseline Projections	NT	AB, NT	All except MB and BC	NT	AB, NT	All except MB and BC
Alternate Assumption 1	NT	NT	PE, NS, NB, QC, ON, YT, NT	NT	NT	PE, NS, NB, QC, ON, AB, YT, NT
Alternate Assumption 2	NT	ON, AB, NT	All except BC	NT	AB, NT, NU	All except BC
Alternate Assumption 3	None	NL	All jurisdictions	None	None	All except BC
Alternate Assumption 4	NT	NT	NL, PE, NS, NB, ON, SK, AB, NT, NU	NT	NT	NL, PE, NS, NB, SK, AB, NT, NU
Alternate Assumption 5	NT	ON, AB, NT	All jurisdictions	NT	ON, AB, NT, NU	All jurisdictions
Alternate Assumption 6	None	AB	All Provs. except MB and BC	None	None	All Provs. except MB and BC

Note: This table shows the jurisdictions for which required nominal GDP growth is expected to be greater than projected nominal GDP growth.
Source: CSLS calculations based on Statistics Canada and Canadian Institute of Health Information data.

The above summary table is a very concise presentation of the projected ability of each jurisdiction to meet (or rather fail to meet) a level of economic growth adequate to fund (without additional debt or taxation) the expected public expenditure requirement. Expansion on the alternate assumption details and their implications (on the following page) should help the reader navigate and make sense of the results provided above.

Alternate Assumption 1: Variable Inflation Rates

In the baseline projections the inflation rate (defined as growth in the GDP deflator) was a constant 2.0% per year. In Alternate Assumption 1, inflation is based on provincial/territorial rates for 2000-2014. As a result, projected nominal GDP growth is lower in some provinces and higher in others

Alternate Assumption 2: Larger Declines in Average Hours Worked

For the baseline projections, average hours worked by age group was assumed to grow at the pace exhibited nationally for 1976-2014. For Alternate Assumption 2, 2000-2014 data is used. This produced a greater decline in average hours worked for all age groups, resulting in slower labour input growth and lower projected GDP growth.

Alternate Assumption 3: Convergence in Labour Productivity Growth

Instead of historical provincial/territorial labour productivity growth rates, Alternate Assumption 3 applies the national growth rate from 2000-2014 (1.0% per year) across all jurisdictions; thus removing an important source of variability, and leaving only total hours worked to inform the labour input.

Alternate Assumption 4: High Population Growth

Instead of using Statistics Canada's medium (M1) scenario to project growth in the working age population, Alternate Assumption 4 uses the high-growth scenario. The high-growth scenario projects working age population growth of 1.2% per year between 2014 and 2038 (well above the 0.9% M1 projection). More rapid growth in working age population translates to faster growth in hours worked, and greater growth in real and nominal GDP in every province/territory.

Alternate Assumption 5: Low Population Growth

Instead of using Statistics Canada's medium (M1) scenario, Alternate Assumption 5 uses the low-growth scenario, providing 0.7% average annual growth in the working age population (compared to 0.9% in the M1 projection). Slower population growth results in reduced hours worked, with corresponding reductions in real and nominal GDP for every province/territory compared to the baseline projections.

Alternate Assumption 6: Variable Average Hours Worked

For baseline projections, every province/territory used national growth rates in average hours worked by age group (1976-2014). Alternate Assumption 6 uses provincial growth rates over the same time period to project labour force growth, adding some variability to the GDP projections.